

REFERENCE NO. OF DOCUMENT BEING CONTINUED: NNNK09247909R
NAME OF OFFEROR OR CONTRACTOR:

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SECTION 1. STATEMENT OF WORK: GLENN RESEARCH CENTER (GRC), CLIN 001 AND 009

- (a) **Delivery:** Delivery and acceptance of product will normally be made Monday through Friday, from 8:00 AM to 4:00 PM at the Cleveland location; and 7:30 AM to 2:30 PM at the Sandusky location. However, under unusual circumstances, the Contractor agrees to deliver product 24 hours a day, 7 days a week, including holidays.
- (b) **Clearance Procedures:** The badging point of contact will ensure the drivers are issued temporary badges for admission onto GRC.
- (c) **Seals:** GRC requires the tanker to be sealed to prevent tampering; however, a serialized seal is not required.
- (d) **Quantification of product delivered:** Vendor will utilize certified scales at GRC to determine quantity of product delivered.
- (e) **GRC responsibility during delivery:** GRC personnel do not have to be present to operate GRC equipment during the delivery of liquid nitrogen. However, GRC personnel are required to be present during the delivery of liquid oxygen.
- (f) **Receiving storage:** Current facility storage containers in use at GRC include those which are listed below. However, the Government reserves the right to add, withdraw, change, or substitute receiving containers at anytime during the life of the contract. Additionally, there will be instances where propellant delivery will be made directly into Government tankers, at either the Cleveland or Sandusky Ohio location.

Location	Type	Facility	No. Of Tanks	Capacity (Gallons)	Loading Stations	Comments
Cleveland	Nitrogen	49 (N-26)	1	3,600	1	
Cleveland	Nitrogen	77 (N-51)	1	7,000	1	
Cleveland	Nitrogen	24 (N-52)	1	2,000	1	
Cleveland	Nitrogen	5 (N-55)	1	3,000	1	
Cleveland	Nitrogen	302 (N-57)	1	1,500	1	
Cleveland	Nitrogen	301 (N-61)	1	50,000	1	
Cleveland	Nitrogen	51 (N-62)	1	2,240	1	
Cleveland	Nitrogen	400 (N-64)	1	2,000	1	
Cleveland	Nitrogen	83 (N-70)	1	7,000	1	
Cleveland	Nitrogen	5 (N-72)	1	13,000	1	
Cleveland	Nitrogen	16 (N-73)	1	13,000	1	
Cleveland	Nitrogen	54 (N-75)	1	10,000	1	
Sandusky	Nitrogen	K site (LV-7)	1	300	1	
Sandusky	Nitrogen	B-2/HTF (N-77)	1	28,000		Manifolded tanks with one connection point.
Sandusky	Nitrogen	B-2/HTF (N-79)	1	28,000	1	
Sandusky	Nitrogen	SPF (N-80)	1	28,000	1	Manifolded tanks with one connection point.
Sandusky	Nitrogen	SPF (V-22-1)	1	200,000	1	
Sandusky	Nitrogen	Gas Handling (N-42)	1	4,000	1	
Sandusky	Nitrogen	Gas Handling (N-43)	1	4,000	1	
Sandusky	Nitrogen	Roadable (N-46)	1	4,000	1	May be at both locations
Cleveland	Oxygen	Bldg 401 (O-10)	1	3,600	1	

Cleveland	Oxygen	Bldg 208 (0-3)	1	4,000	1	
Sandusky	Oxygen	B-2 (0-55)	1	12,000	1	

Note: Telemetering is not acceptable.

(g) Fill point fittings: The fill point fittings at GRC are 1½ CGA fittings (NI-15 and OX-15).

(h) GRC points of contact will be specified on delivery orders.

(End of section)

SECTION 2. STATEMENT OF WORK: GODDARD SPACE FLIGHT CENTER (GSFC), CLIN 002

(a) Delivery

(1) Routine deliveries: Monday through Friday, 7:30 AM to 3:30 PM.

(2) Emergency Deliveries: 24 hours a day, 7 days a week, including holidays.

(b) Clearance Procedures: The badging point of contact will ensure the drivers are issued temporary badges for admission onto GSFC. For each daily delivery during routine delivery hours, the driver must stop at the gatehouse Building 16 (Soil Conservation Road). For each daily delivery outside of the routine delivery hours, the driver must stop at the main gatehouse (Greenbelt Road).

(c) Seals: GSFC requires the tanker to be sealed to prevent tampering; however, a serialized seal is not required.

(d) Quantification of product delivered: GSFC will accept the tanker pump meter quantification of product delivered. Pump meter shall be calibrated in accordance with NIST Handbook 44.

(e) GSFC responsibility during delivery: GSFC personnel do not have to be present to operate GSFC equipment during the delivery of liquid nitrogen.

(f) Receiving storage: Current facility storage containers in use at GSFC include those which are listed below. However, the Government reserves the right to add, withdraw, change, or substitute receiving containers at anytime during the life of the contract.

Facility	No. Of Tanks	Capacity (Gallons)
Bldg 4	1	5,600
Bldg 7	1	28,000
Bldg 10	1	64,000
Bldg 11	1	500
Bldg 33	1	1,500
Bldg 22	1	3,000
Bldg 30	1	3,000

(g) Fill point fittings: The fill point fittings at GSFC are 1½ CGA fittings (NI-15).

(h) GSFC points of contact will be specified on delivery orders.

(End of section)

SECTION 3. STATEMENT OF WORK: JOHNSON SPACE CENTER (JSC)

(a) CLIN 003

- (1) Delivery: Desired hours of delivery and acceptance of product is Monday through Friday, 7:00 AM to 3:00 PM. However, during prolonged chamber testing or under unusual or emergency circumstances, the Contractor agrees to deliver product 24 hours a day, 7 days a week, including holidays.
- (2) Clearance procedures: All personnel entering JSC must be badged for access. Access into controlled areas within JSC will be issued on site at time of delivery, as required. The contractor must provide the names, social security numbers and citizenship of each driver to be used for delivery to the badging point of contact. These documents will help ensure that drivers are issued temporary badges for admission onto JSC. Attending on-site orientation training may be required. In addition, for each daily delivery the driver must stop at the gatehouse for badge check. While on JSC property, contractors, their employees and agents, shall wear badges.
- (3) Quantification of product delivered: JSC will accept the tanker pump meter quantification of product delivered. Pump meter shall be operated and calibrated in accordance with NIST Handbook 44.
- (4) Scheduling: Loading and dispatching tankers shall be scheduled to assure arrival at destination during normal receiving hours, unless otherwise directed. Under normal delivery conditions, the Government will provide a minimum of 48 hours notice prior to requiring delivery of ordered product(s). For instances where more than routine product quantities are required, the Government will provide a minimum of ten days notice.
- (5) JSC responsibility during delivery: JSC personnel will operate JSC equipment and the contractor will operate vendor owned equipment.
- (6) Receiving Storage: Current facility storage containers in use at JSC include those which are listed below. However, the Government reserves the right to add, withdraw, change, or substitute receiving containers at anytime during the life of the contract.

Facility	No. Of Tanks	Capacity (Gallons)
Bldg 32	1	28,000
Bldg 32	1	28,000
Bldg 32	1	28,000
Bldg 32	1	28,000
Bldg 32	1	24,000
Bldg 32	1	24,000
Bldg 33	1	24,000

Note: Six tanks at Bldg 32 are manifolded together with one fill point.

- (7) Fill point fittings: The fill point fittings at JSC are 1½" CGA fittings (NI-15).
- (8) JSC points of contact will be specified on delivery orders.

(b) CLIN 004

- (1) Modified Grade C requirements for purity/impurity limitations are as follows:
 - (i) Purity: $\geq 99.995\%$
 - (ii) Oxygen: ≤ 10 ppm
 - (iii) Hydrocarbons, as Methane: ≤ 1 ppm

- (iv) Argon: ≤ 30 ppm
- (v) Water: ≤ 10 ppm
- (vi) Carbon Monoxide: ≤ 10 ppm
- (vii) Carbon Dioxide: ≤ 10 ppm
- (viii) Hydrogen: ≤ 0.5 ppm
- (2) Routine delivery: Desired hours of delivery and acceptance of product is Monday through Friday, 7:00 AM to 3:00 PM. However, under unusual or emergency circumstances, the Contractor agrees to deliver product 24 hours a day, 7 days a week, including holidays.
- (3) Clearance procedures: All personnel entering JSC must be badged for access.
- (4) Quantification of product delivered: JSC requests scale weights for quantification of product delivered. Certified Scales are on JSC Bldg 419.
- (5) JSC responsibility during delivery: JSC personnel shall be present during offload. The vendor will operate vendor owned equipment as required.
- (6) Receiving Storage: Current facility storage containers in use at JSC include those which are listed below. However, the Government reserves the right to add, withdraw, change, or substitute receiving containers at anytime during the life of the contract.

Facility	No. Of Tanks	Capacity (Gallons)
Bldg 31	1	15,000

- (7) Fill point fittings: The fill point fittings at JSC are 1½" CGA fittings (NI-15).
 - (8) JSC points of contact will be specified on delivery orders.
- (c) CLIN 010
- (1) Delivery to Ellington Airport:
 - (i) Normal: Mondays, 6:30 AM to 10:30 PM. When Monday is a government holiday, deliveries will be accepted on the Tuesday following the holiday.
 - (ii) Emergency: 24 hours a day, 7 days a week, including holidays.
 - (2) Clearance procedures: TBD
 - (3) Quantification of product delivered: JSC will accept the tanker pump meter quantification of product delivered. Pump meter shall be calibrated in accordance with NIST Handbook 44.
 - (4) Receiving storage/delivery locations: TBD
 - (5) Fill point fittings: The fill point fittings at JSC-Ellington Field are 1½ CGA fittings (OX-15).
 - (6) JSC points of contact will be specified on delivery orders.

(End of section)

SECTION 4. STATEMENT OF WORK: MICHOUDE ASSEMBLY CENTER (MAF), CLIN 005

- (a) Delivery: Delivery and acceptance of product will normally be made Monday through Friday, from 7:00 AM to 3:00 PM. However, under unusual circumstances, the contractor agrees to deliver product 24 hours a day, 7 days a week, including holidays.
- (b) Clearance Procedures: The badging point of contact will ensure the drivers are issued temporary badges for admission onto MAF.
- (c) Seals: MAF requires the tanker to be sealed (with a serial number) to prevent tampering.
- (d) Quantification of product delivered: MAF will accept the tanker pump meter quantification of product delivered. Pump meter shall be calibrated in accordance with NIST Handbook 44.
- (e) MAF responsibility during delivery: MAF personnel do not have to be present to operate GRC equipment during the delivery of liquid nitrogen.
- (f) Receiving Storage: Current container in use is listed below. However, the Government reserves the right to withdraw, change, or substitute receiving containers at anytime during the life of the contract. MAF liquid nitrogen tank capacity (single tank) is 30,000 gallons.
- (g) Fill point fittings: The fill point fittings at MAF are 1½ CGA fittings (NI-15).
- (h) MAF points of contact will be specified on delivery orders.

(End of section)

SECTION 5. STATEMENT OF WORK: MARSHALL SPACE FLIGHT CENTER (MSFC), CLIN 006 AND 011

- (a) Delivery: Delivery and acceptance of product will normally be made Monday through Friday, from 7:00 AM to 2:00 PM. However, under unusual circumstances, the Contractor agrees to deliver product 24 hours a day, 7 days a week, including holidays. Liquid nitrogen deliveries to the U.S. Army Redstone Arsenal will be received at MSFC receiving prior to delivery to the Army.
- (b) Clearance Procedures: The badging point of contact will ensure the drivers are issued temporary badges for admission onto MSFC. Entrance gate: TBD.
- (c) Seals: MSFC requires the tanker to be sealed (with a serial number) to prevent tampering.
- (d) Quantification of product delivered: Vendor will utilize certified scales at MSFC to determine quantity of product delivered.
- (e) MSFC responsibility during delivery: MSFC personnel have to be present to operate MSFC equipment during the delivery of liquid nitrogen and liquid oxygen.
- (f) Receiving storage: Current facility storage containers in use at MSFC and Redstone Arsenal include those which are listed below. However, the Government reserves the right to add, withdraw, change, or substitute receiving containers at anytime during the life of the contract.

Location	Type	Bldg	Tank No.	Capacity (Gallons)	MAWP (PSI)*	Loading Stations	Comments
MSFC	Nitrogen	4659	1	25,200	100	3	The 3 loading stations supply all tanks
			2	25,200	100		
			3	25,200	100		
			4	25,200	100		
			5	TBD	TBD		
			6	TBD	TBD		
			7	28,000	79		
			8	28,000	79		
MSFC	Nitrogen	4707	1	13,500	107.6	1	
MSFC	Nitrogen	4718	1	25,200	100	1	
			2	28,000	165		
MSFC	Nitrogen	4619	1	13,500	107.6	1	
			2	13,500	107.6		
Redstone	Nitrogen	7156	1	9,000	250	1	
Redstone	Nitrogen	8890	1	13,000	250	1	
Redstone	Nitrogen	8890	1	9,000	250	1	
Redstone	Nitrogen	A-7848	1	6,000	250	1	
Redstone	Nitrogen	A-7851	1	6,000	70	1	
Redstone	Nitrogen	A-7859	1	6,000	250	1	
Redstone	Nitrogen	A-7879A	1	14,000	65	1	
Redstone	Nitrogen	4500	1	6,000	250	1	
MSFC	Oxygen	4522/TS-500	1	28,000	70	1	See Note 1.
MSFC	Oxygen	4540/TS-116	1	28,000	70	1	See Note 2.

			2	14,000	50		
MSFC	Oxygen	4670	1	26,500	100	1	See Note 3.
			2	26500	100		
			3	26,500	100		

Note 1: Tank has pressure coils for transferring liquid oxygen to run tanks, and miscellaneous valves and piping to the test stand (TS-500) interface. MSFC tanks have pumps for unloading vendor tankers and transfer to test stand run tanks.

Note 2: Tanks have pressure coils for liquid oxygen transfer to run tanks, and miscellaneous valves and piping to the test stand (TS-116) interface. MSFC tanks have pumps for unloading vendor tankers and transfer to test stand run tanks.

Note 3: Tanks have pumps for unloading vendor tankers and transfer to test stand run tanks.

(g) MSFC points of contact will be specified on delivery orders.

(End of section)

SECTION 6. STATEMENT OF WORK: STENNIS SPACE CENTER (SSC), CLIN 007, 008, 012, AND 013

- (a) **Delivery:** Delivery and acceptance of product will normally be made Monday through Friday, from 7:00 AM to 10:00 PM. However, under unusual circumstances, the contractor agrees to deliver product 24 hours a day, 7 days a week, including holidays. This is expected to happen no more than twice per year.
- (b) **Clearance:** All personnel entering SSC must be badged for access.
- (c) **Seals:** SSC requires the tanker to be sealed (with a serial number) to prevent tampering.
- (d) **Quantification of product delivered:** The vendor will use certified scales at SSC to determine quantity of product delivered.
- (e) **SSC responsibility during delivery:** SSC personnel have to be present to operate SSC equipment during the delivery of liquid nitrogen and liquid oxygen.
- (f) **Receiving storage:** Current containers in use include those which are listed below. However, the Government reserves the right to withdraw, change, or substitute receiving containers at anytime during the life of the contract.

Type	Facility	No. of Tanks	Capacity (Gallons)
Nitrogen	HPGF	1	55,000
Nitrogen	HPGF	1	27,000
Nitrogen	HPGF	1	27,000
Nitrogen	E1	1	28,000
Oxygen	B2	1	25,000
Oxygen	E1	1	28,000
Oxygen	E2	1	3,000
Oxygen	E3	1	500
Oxygen	Barge	1	95,000
Oxygen	Barge	1	95,000
Oxygen	Barge	1	95,000
Oxygen	Barge	1	95,000
Oxygen	Barge	1	95,000
Oxygen	Barge	1	95,000

- (g) **Fill point fittings:** SSC has the fill point fittings to accommodate the vendor.
- (h) **SSC points of contact** will be specified on delivery orders.

(End of section)